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ABSTRACT

The paper describes strategies for teaching six different handwriting skills to learning disabled (LD) elementary students. A rationale for each strategy precedes step-by-step procedural descriptions. Strategies in the following areas are described: (1) introducing LD children with motor coordination deficits to alphabetic symbols using sandpaper letters; (2) using cursive writing to help remediate directional confusion; (3) giving students practice in staying within the baseline work space and controlling consistency in letter sizing; (4) remediating visual-spacial difficulties of students who are unable to keep regular spacing between words or symbols; (5) teaching cursive writing using the vertical downstroke and natural connections between manuscript letters; (6) using a variety of visual, auditory, kinesthetic, and tactile activities to address reversal problems. (JW)

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Remediating Handwriting Skills for Learning Disabled Students

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Abstract

Since handwriting is a tool of communication, and good handwriting is an individual way of expressing one's thoughts effectively (Hanover, 1983), it is important that teachers be able to seek out and practice methods or remediating poor handwriting skills. Teachers of LD students must motivate their students through stimulating lessons, meaningful creative activities and practical applications, by using methods and materials adaptable to students' individual differences in motor control, in order to further the acquisition and maintenance of handwriting skills. The purpose of this paper is to decribe six (6) handwriting skills which are difficult for LD students to acquire, as well as, the rationale and procedures to be used to develop handwriting proficiency in LD students.

Remediating Handwriting Skills for Learning Disabled Students

Handwriting Skill #1: Copying letter for the LD child with motor coordination deficits.

Rationale: Teaching Learning Disabled (LD) children with motor coordination deficits to write involves the use of concrete materials with which they are able to have personal contact (Guyer, 1974). Perfecting find motor coordination by allowing students to handle objects such as geometric insets which have knobs on the top and are picked up by the child with the three fingers of their writing hand, strengthens muscles needed for writing. Practice using clay, drawing, coloring, folding, cutting, etc. also aids in muscular development and coordination improvement. LD students need to produce written work that looks good. When LD students' motor skills are improved and they can perform the task of writing, their feeling of self worth is enhanced. Since copying letters is demanding on the coordination abilities of LD children with poor motor skill, the following technique should be used which works from gross to fine movement patterns to improve handwriting difficulties.

Procedure: This approach introduces LD children to alphabetic symbols using sandpaper letters. The process is as follows:

1. Each letter of the alphabet is outlined in sandpaper on an individual card.

2. The teacher shows the child how to trace the letter with two fingers following the same direction in which the letter should be written.

3. Later the child uses a sucker stick (familiar object-similar in shape of a pencil) to follow the shape of the letter, thus preparing him/herself to use a pencil in writing letters.

4. Gradually the child learns to handle a pencil, and begins to write. Use of this material gives a three-fold impression:

a. The child sees the shape.

b. The child feels the shape.

c. The child hears the sound of the letter which the teacher says when introducing the letter.

5. The teacher continues to ask the student to copy letters over and over for added practice and manipulation of muscles.

Sandpaper letters may be inexpensively made by using letters on tagboard cards with a magic marker; then write with a white glue on top of the letters. The dried glue may be left as a plain raised surface or sand may be lightly sprinkled in the wet glue. As the child continuously practices copying letters, motor coordination improves and legible letter formation is attained.

Handwriting Skill #2: Directional confusions experienced by LD students when writing words.

Rationale: Children who exhibit difficulty in directional (left to right awareness) problems when writing can receive remediation through cursive writing. Cursive writing consists of a sequence of letters whose continuity forms complete words with closures on each word (Getman, 1983). The advantage of using cursive writing to improve directional problems lies

in the fact that each word consists of one continuous line where all elements flow together (Early, 1973), thereby facilitating directional confusions in writers who will no longer execute the movement of each letter as a separate and distinct entity as in manuscript. Hence, having this skills allows the student to produce words which have correctly formed letters. There is a stroking glide to be used in the following procedure which allows the student to more readily experience the total form or shape of a given word as they monitor the kinesthetic feedback from their writing movements.

Procedure: To begin illustrating the stroking glide, the teacher should make sure that the child is sitting comfortable with both feet flat on the floor and then proceed as follows:

1. Determine proper paper slant for the writing exercise.

a. Right handed students-lower left corner of the paper should point near the center of the body.

b. Left handed students-lower right corner of the paper should point to the left elbow.

2. Introduce the letter to the students on the blackboard e.g. p, i, t, y, etc. Then issue Sample to be traced.

3. The teacher should then allow the students to trace the letter (with numbers and arrows pointing to the correct direction of sequential movement). Each letter should be at least 6 inches.

4. Next, the students should be allowed to use a wet eraser on the blackboard to get the feel of the letters and manipulate their body when connecting the letters to form words.

5. After practice with the individual strokes, the teacher should teach the child to connect the letters to form words.

6. Added satisfaction comes when students are allowed free movement to use large lined paper on an easel board to practice, in the back of the classroom after they have completed their assignments.

This method of using large letters (6-8 inches) in early cursive writing benefits the child by developing gross to fine developmental sequence and later as the child gains competence with large letters, the size can be reduced progressively. The total form or shpae of a given word is experienced by the child as he monitors the kinesthetic feedback from his writing movements. In cursive writing, individual letters are difficult to reverse, in contrast to the manuscript letters, therefore, directional problems can be identified early and corrective measures implemented when the child used the techniques such as the wet eraser and large easel board. Regular instruction is recommended to help LD students' hands move automatically and thus gain efficiency.

Handwriting Skill #3: Letters too large-LD students with poor visual control.

Rationale: LD students with poor visual control for close work tend to write too large for the work space provided on the page (Graham & Madan, 1981). These students' writing position should be checked and teachers should discourage wide spreading of arm from body. Students need to acquire the ability to stay within the baseline and control the

consistency in letter sizing. Hence, their poor mental image of letter-size improves through practice. The following procedure trains the student to produce acceptable letter sizing which alleviates oversized symbols.

Procedure:

1. Give students practice with writing instruments of different sizes and observe their flexibility in writing large as well as small letters. Students are required to stay within the boundaries as indicated. They develop an understanding of where to start, end, and the height and width of the letters.

2. Independent practice books should be given to students who exhibit inconsistencies in letter size formation.

3. Tracing overlays is another step to be taken to familiarize students with proper sizing.

4. Using controlled sized line paper also offers remedial practice in guiding LD students' movements.

5. Dot to dot exercised may be helpful as a reinforcement of proper size lettering.

Handwriting Skill #4: Visual-spacial difficulty of LD students unable to keep regular spacing between words or symbols (dysgraphic).

Rationale: Dysgraphic is a disorder resulting from a disturbance in visual-motor integration. The child with this type of involvement has neither a visual nor a motor defect, but they

cannot ideate the motor plan (Davis & Miller, 1983). As a result, the child is unable to write or copy letters, words, and numbers. However, many overcompensate for their visual-motor deficit by developing superior auditory skills, good spoken language and reading ability. Dysgraphic children (particularly those with visual perceptual problems) often have trouble learning to leave the proper amount of space between letters and words. Some do not leave spaces between words, and others have irregular spaces without regard for word units. Nevertheless, most dysgraphic children show good progress if they are taught to make the appropriate visual-motor associations.

Procedure: Once dysgraphic children are taught to write using pre-writing skills, correct positioning of posture and paper, through kinesthetic learning and coordinating patterns, the spacing problem can be remediated as follows:

1. Teacher should place anagrams or cutout letters on a flannelboard or desk.
2. Arrange the letters to make a sentence but do not leave spaces between the words.
3. Tell the child what the sentence should say and ask them to separate the words by moving the letters. As the teacher says the sentence, pause after each word to indicate the place where one word ends and another begins. Later arrange sentences on the board but do not tell the student what it says; see if they can determine how the letters should be separated.

4. Prepare an exercise such as this:

a. Howmanycarsareblue?

b. Comewithme.

c. Doyourhomework.

5. Tell the child what the sentences say, then give them a colored pencil and ask the child to mark where spacing should appear (as children perform exercises of this type, they learn to appreciate the difficulties facing the reader who tries to read improperly spaced writing and they become more conscious of their own errors.

6. After the child can identify errors and arrange words correctly, ask them to write sentences. Make rectangles of varied sizes to correspond with the length of the words, leaving a space between each figure. The student is to write a word in each space.

Program planning for children with dysgraphia requires a detailed description of the program. Before inaugurating a program of remediation, it is necessary to know precisely what a child can or cannot do, and to know how he learns. Through observation we determine the systems that are or are not intact and gain information about the sensory channels to be used for presenting new material.

Handwriting Skill #5: Handwriting for the LD-using vertical downstroke, and connecting letters.

Rationale: This technique proposes a simplified handwriting method for children who have difficulty in learning conventional cursive

writing patterns. Designed to meet learning disabled children's needs for task analysis, overlearning, monitoring, and verbal cues, this method is based on the vertical downstroke, rather than the diagonal slant necessary to most cursive writing (Hagin, 1983). It adds connecting strokes that permit faster writing than is possible with the separated letters of print. By emphasizing the vertical downstroke and the natural connections between manuscript letters, this writing method combines the simplicity of manuscript with the speed of cursive writing.

Procedure: In order to attain this handwriting skill, the teacher must check the student's posture, the position of the paper, how the pencil is grasped, arm movements, etc.

1. The blackboard is used for introducing new words.
2. There are four checkpoints which must be reviewed throughout the lesson, they are:

a. Writing hand- which hold s the pencil in a pinchers grip.

b. Helping hand- which rests at the top of the page to keep the page from slipping away as the writing hand moves across it. It is also ready to move the page up as work proceeds.

c. Page- which is placed with the longer side parallel to the writing arm, slanting diagonally on the desk. This means that left-handed writers are helped to avoid "hooked arm" positioning which places so much stress upon the wrist of the writer.

d. Elbow- the elbow is anchored on the desk so that the arm, as it pivots, can reach across the page without repositioning.

3. Students should be taught and encouraged to position the paper with the longer side parallel to the writing arm whenever possible, so that they can learn to sweep the arm across the page as they write, without respositioning it after every few words.

4. The letters and their associates are introduced, one group at a time according to the response. The teacher writes the connections and vertical strokes on the blackboard and students are allowed to come to the board and to air write before beginning the paper writing. The groups are as follows:

"a" grouped letters - c, d, g, q.

"e" grouped letters - i, h, j, m, n, u, y, z.

"o" grouped letters - v, b, w, x.

"k" grouped letters - l, t, r, f.

5. The associated letters are traced from sample models given to students providing unlimited guided practice.

6. The students then try to write the letter associations on their own using acetate.

7. The acetate is placed over the students' letters and they match their letters written against the models. The teacher and student judge whether the writing matches the model which determines whether the student has mastered the letter associations as worked out in the lesson.

8. This procedure is repeated until all of the associations/connections are mastered.

Vertical downstrokes and connections are taught on the chalkboard by the teacher and the students air write before starting their practice at the desk. This simplified style of handwriting is proposed because it is appropriate to the lags in visual-motor control which frequently characterize children with learning disabilities. It combines the simplicity of manuscript with the speed of cursive writing. This teaching approach conceptualizes handwriting as a process involving elements of visual spacial, body image, awareness, kinesthetic feedback, and timing of correction, all guided by verbal cues. It provides mastery experiences through tracing, trying, matching and self evaluation.

Handwriting Skill #6: Reversal problems of LD students with visual-memory problems.

Rationale: Students with visual-memory problems have difficulty conceptualizing left from right. Students should acquire the skill of correcting reversals so that they can discriminate between letters and numbers during handwriting and reduce the embarassment caused by reversals. LD students can be taught to use the following strategies incorporating the visual, auditory, kinesthetic and tactile systems as aids in recalling directions and positions of letters and numbers.

Procedure:

1. To help students internalize the concept of left or right, the teacher can use the "heavy-hand" method (Feder & Weber, 1986). Once each day place a fairly weighty book in the students writing hand and ask them to hold it perpendicular to their body, and then count to twenty. The

heavy hand becomes the writing hand and the teacher can use corrective measures referring to the heavy hand when the child is discovered using reversals.

2. Kinesthetic and tactile reinforcement are also helpful. Using fine sandpaper, have the child trace the frequently reversed letters or numbers before writing them on paper.

3. Provide a reference point by placing colored paper on the left-hand corner of the child's desk. The direction of a letter or number can be referred to the position of the colored tape.

4. Manipulatives such as clay or play dough helps the student form the problem letters or numbers.

5. To alleviate the "b" - "d" problem: The "b" can be identified by demonstrating its similarity to the upper case "B". Present the student with a picture clue which aids in revisualization of the correct direction of letters.

The c can be used as a clue in constructing the "d".

6. The following are "handy" remedies for letter and number reversals.

a. If the student is right-handed, he/she can look to their pointer and thumb of their left hand. These fingers when held at the top of the paper upon which they are writing, provide a clue to the direction of the letter "c" which then can be formed into the letters "d", "e", "g", "q".

b. The left hand can also be a clue to the direction of numbers as the student traces around their fingers. The left-handed person can look to their right thumb and forefinger for clues.

Conclusion

These six (6) methods shich would be used to develop handwriting proficiency in LD students address techniques to improve motor performance as well as the visual perception necessary for mastering these skills. The limits to accomplishing the task of remediating handwriting difficiencies may be caused by budgetary constraints in allocating time and money for necessary materials and instructional staff/hours, and in some cases, programming of instructional objectives as outlined by the administration, noting this skill a lesser priority than other areas of instruction. However, the need for teachers to develop methods of delivering instruction through the use of stimulating lessons, practical applications, and meaningful, creative activities, allows the students to become motivated to improve their writing skills. Students' self confidence and pride in quality of work increases and through frequency of application, the tactile kinesthetic stimulation needed to increase the likelihood of learning and remembering results (Simner, 1982) as the students become confident in their handwriting products.

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